



THE MEDIATING ROLE OF WOMEN ENTREPRENEURIAL INTENTION ON THE RELATIONSHIP BETWEEN WOMEN ENTREPRENEURIAL ATTITUDE AND SOCIAL INNOVATION

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ABSTRACT

Purpose: This study investigates the mediating role of entrepreneurial intention on the relationship between entrepreneurial attitude and social innovation. Although the significance of women entrepreneurial attitude and behaviour still lacks in this area, this study adopted the theory of planned behaviour to investigate these phenomena. **Methodology:** the descriptive methodology has been applied. The survey was the data collection tool from a non-probability sample of Sudanese entrepreneurial women in Khartoum state with a sample size of 310 respondents (entrepreneurial women). This study used intentional sampling methods. The data collected from the respondent was prepared and analysed by SPSS software AMOS. **Findings:** the results of the study showed that entrepreneurial attitude has a significant positive effect on entrepreneurial intention. Entrepreneurial intention is partially mediate the relationship between entrepreneurial attitude and social innovation. **Implications for theory and practice:** the findings of this study indicate and confirm the role of entrepreneurial attitude on entrepreneurial intention and social innovation according to TPB. From a practice point of view, the study tested how Sudanese women's attitudes can develop Entrepreneurial intention. **Originality and value:** the main contribution of the study is the framework and the context of the study third world perspective.

1. Introduction

Today, the role and contribution of human capital have been recognized as the most crucial factor in providing value. Undoubtedly, the human element is the most critical part of developing social and economic innovation (Sayadi et al., 2015). Entrepreneurship represents one of the essential options associated with innovation and the creation of private businesses. Individuals with capabilities accompanied by passion and pursuit of personal and social aspirations play a pivotal role in creating and improving life and the economy. However, until now, very few studies of this nature have been conducted in Sudan. Aries et al. (2020) emphasized innovation as a suitable measure for entrepreneurship. It plays a key role in the conditions of an individual to become a nascent entrepreneur (Carsrud & Brannback, 2011; Duong et al., 2020). Entrepreneurs and innovation play recognized roles in national economic development, especially in income generation, employment creation, skills development, provision of goods and services (Bourne, 2011; Iakovleva et al., 2014; Duong et al., 2020; Olszewska, 2015; Mitrovic Veljkovic et al., 2019). According to Christensen et al. (2002), entrepreneurial activities are critical elements to economic growth. It was also argued that entrepreneurs as job creators are valuable contributors to economic development (Ariff & Abubakar, 2003). Some previous studies investigated the relationship between entrepreneurial attitude and entrepreneurial intention, for example, (Cromie, 2000; Utsch & Rauch, 2000 Abou., Ibrahim, & Hamid., 2018). (Utami, 2017) investigated the relationship between attitude, subjective norms, and entrepreneurial intention. In addition, Sikap, Hubungan (2016) examined the relationship between attitude, intention, and entrepreneurship career choice among Malaysian Indians. Kusmintarti (2017) examined the relationship between creativity, entrepreneurial attitude, and entrepreneurial intention case study of the students of State Polytechnic Malang. On the other hand, some previous studies investigated the relationship between entrepreneurial intention and social innovation. For example, (Wathanakom et al. 2020) studied the causal relationship between innovativeness and entrepreneurial intention among undergraduate students. (Kris & Kristian 2016) explained the impacts of innovativeness and attitude on entrepreneurial intention among engineering and non-engineering students. (Ravi & buang 2016) investigate the relationship between attitude, intention, and entrepreneurship career choice among Malaysian Indian undergraduates.

Mwiya et al. (2018) explore entrepreneurial intention's mediating role in the relationship between self-efficacy and nascent behaviour in Zambia. Rezaei & Peykani (2018) investigate the mediating role of entrepreneurial intention in the relationship between critical thinking and employee productivity telecommunication company isfahan. Lacap et al. (2018) investigated the mediating effects of social entrepreneurial intention on the relationship between prior experience and social entrepreneurial antecedents in Filipino and Indonesian university students. Scanty, previous studies have taken the entrepreneurial intention as a mediating variable (Jean et al., 2018). However, no previous research investigated entrepreneurial intention as a mediator of the relationship between entrepreneurial attitude and social innovation.

Specifically, the main problem of the study is to examine the interpretation role of entrepreneurial intention in the relationship between entrepreneurial attitude and social innovation. Few known previous studies investigated the relationship between entrepreneurial attitude and entrepreneurial intention. Moreover, few known previous studies examined the relationship between entrepreneurial intention and social innovation. Besides exploring the mediating role of entrepreneurial intention between entrepreneurial attitude and social innovation. Our research aims to explore the mediating role of entrepreneurial intention on the relationship between entrepreneurial attitude and social innovation. This study will investigate the relationship between entrepreneurial attitude and entrepreneurial intention. Thus, this study outlined the following question:

To what investigate the mediating role of entrepreneurial intention on the relationship between entrepreneurial attitude and social innovation?

This study contributes to economic development, particularly in solving entrepreneurial women's unemployment. This study may encourage entrepreneurial women to play a more significant role in activities related to innovation development.

2. Literature Review

2.1 Entrepreneurial Attitude

The entrepreneurial attitude is one of the essential factors in determining the success of individuals in entrepreneurship. According to Sudipa and Damodharan (2012), attitude is an evaluative behavior. Ajzen (2005) defines attitude as a tendency to like or dislike an object. An entrepreneurial attitude is defined as a tendency to react regarding whether one likes or dislikes entrepreneurial activity. Following (Fini et al., 2009), this study defines entrepreneurial intention as a cognitive expression of what a person must do to create or create a new business. According to Mohd Salleh et al. (2005), attitude is an element in personality that is important in determining the success of the entrepreneur's ventures. Therefore, these factors influence intentions towards entrepreneurial ventures. Furthermore, the propensity towards risk, environmental influences, innovativeness, and similar factors are essential for entrepreneurial attitudes and intentions (Ajzen, 1991; Autio et al., 2001; Krueger, 2000; Lüthje & Franke, 2003). Thus entrepreneurial attitude is considered a favorable cognitive force that drives an individual's entrepreneurial intention and later action (Ajzen, 1988). Yan & Hu (2008) also affirmed that personality traits, entrepreneurial attitude, and entrepreneurial intention are positively related. Existing research findings show that personal characteristics are important factors that influence attitudes towards entrepreneurship (Baron & Markman, 2003; Baum & Locke, 2004). the Theory of Planned Behaviour argues that attitude is a function of intentions.

2.2 Social Innovation

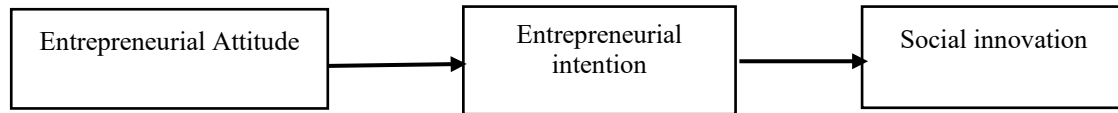
Innovativeness is one of the vital entrepreneurial preconditions proposed by Koh (1996). Social innovation stands for innovative activities or services driven by a social need (Mulgan 2006). Innovation is regarded as vital and one of the inevitable characteristics an entrepreneur needs to possess as entrepreneurs always seek new opportunities and endeavour to avail themselves (Zacharakis, 1997; Entrialgo et al., 2000; Hansemark, 1998., Carland et al., 1984). Innovation also plays a vital role in entrepreneurship (Khajeheian & Tadayoni, 2016). Innovation has increasingly gained significance in entrepreneurship, resulting in more studies concerning its function and nature (Drazin & Schoonhoven, 1996). According to Carland et al. (1988), the core drivers of innovativeness observed in entrepreneurs are the intentions to develop and gain profit. The strength of these drivers is higher in innovative entrepreneurs. The study by Ahmed et al. (2010) investigated the determinants of entrepreneurial intention and demonstrated that innovativeness was one of the factors with a positive influence on intentions to entrepreneurial behaviours. Entrepreneurs are considerably more innovative in innovation-driven economies than in efficiency-driven economies (GERA, 2017); innovative entrepreneurship is considered a key factor of modern economic development (Fagerberg & Sappasert, 2011). Innovation is a product of creativity, defined as an individual's ability to create new and unique ideas. Innovation is typically the implementation of an invention to solve an issue (Mcbeth & Rimac, 2004). Moreover, the market needs should be tackled by innovation and require entrepreneurship to achieve commercial success (Zhao, 2005). Thread entrepreneurship has always been associated with innovation, creativity, and entrepreneurship that is necessary and interdependent. (Fadaee & Abd Alzahrh, 2014). innovation is the heart of entrepreneurship activity, and it is due to innovation that many entrepreneurship carry out their activity. Innovation has affected venture performance significantly as a fundamental motive for novel ventures (Hisrich, Peters, & Shepard, 2008).

2.3 Entrepreneurial Intention

Entrepreneurial intention is the primary antecedent of entrepreneurship (Lee & Wong, 2004). Entrepreneurial intention is the determination of an individual to start a new business (Krueger & Carsrud, 1993). According to Bird (1988), intention is an intellectual state that motivates individuals to place their focus on a particular thing or direction as a goal for accomplishing a task as a means. Much empirical research on TPB has successfully served some significant statistical and theoretical contributions to the vast existing literature. Yet demanding expansion on the entrepreneurial intention by confirming that entrepreneurial attitude, social norms, entrepreneurial self-efficacy positively predict the entrepreneurial

intention (Anwar et al., 2020; Anwar & Saleem, 2019; Yousif & Eshag, 2020; Elhag, & Abd Elmawla 2020; Anwar et al., 2021). Sulatn (2016), and Saral, H. C. (2017), confirm that intentions are a significant predictor of behaviour. Moreover, the researchers conclude that the entrepreneurial intention that leads to entrepreneurial behaviour is related to personal characteristics and individual traits that vary from person to person, which the current study aims to prove (Al-Nashmi, 2017). Drnovsek & Nguyen (2005) refer to social, political, and economic factors for the entrepreneurial intention and personality aspects, skills, and personal convictions. (Ajzen 1991, 2005). In TPB, three attitudinal antecedents determine the intention and, in turn, the intention influences behaviour. The linkage between Entrepreneurial attitude and social innovation, therefore it can be hypothesized that:

Figure:1 The conceptual framework of the study



Hypothesis:

H1. Will entrepreneurial attitude significantly affect entrepreneurial intention.

Theory of Planned Behavior explains that three factors influence a person's intention to perform a behaviour: an attitude. According to Cruz et al. (2015), attitude tends to react effectively in response to the risks that would be faced in a business. These attitudes and intentions are associated with individual perception and are learnable (Ajzen 2005); thus, fostering these variables is crucial to promoting entrepreneurship. A model postulated by Churchill and Bygrave (1989) explains that traits concerning entrepreneurs are positively associated with entrepreneurial intention. (Cromie, 2000; Utsch & Rauch, 2000; Kusmintarti, & Riwayatanti 2017).). Yan and Hu (2008) also affirmed that personality traits, entrepreneurial attitude, and entrepreneurial intention are positively related. Geissler & Zanger (2013), several experiential types of research show the relevance of the concept of attitude as a solid and reliable interpreter of business intent. (Mohamed et al., (2012). Moreover, the attitudes of the women have an impact on behaviour by intent. Hubungan Sikap, (2016) This study has shown that the undergraduates have a positive attitude and a high level of intention for entrepreneurial careers. According to Sudipa & Damodharan (2012), attitude and entrepreneurial intention create new ventures. Giacomini et al. (2011), A survey among university students, revealed that male students show more positive attitudes towards entrepreneurship and much more concrete entrepreneurial intentions. The relations between attitude and intention are described in the Theory of Planned Behaviour; the intention is determined by the attitude toward the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991; Ajzen, 2005). Furthermore, entrepreneurial attitude strongly influences entrepreneurial intention (Luthje & Franke, 2003; Kusmintarti et al., 2014). (Sutha, 2016). This study has shown that the undergraduates have a positive attitude and a high intention for entrepreneurial careers.

H2. The entrepreneurial intention will significantly affect social innovation.

Some researchers provided evidence regarding the significant positive relationship between innovativeness and entrepreneurial intent (Gürol & Atsan, 2006; Rättyet al., 2019). Chia and Liang (2016) argued that the consumer's intention to adopt innovations is essential and accurately predicts usage behaviour. (Sutha, 2016). This study suggests that innovativeness has a positive influence on entrepreneurial intention. (Kris & Kristian 2016). Comparing the results among students in different years shows that senior fund students have significantly higher innovation and entrepreneurial intention. Rasli et al. (2013), the intention of entrepreneurship is a mind that encourages individuals to create businesses. Sharahiley (2020) reported and showed evidence that innovativeness is the most influential predictor of entrepreneurial intention. Likewise, Koh (1996) and Gurol and Atsan (2006) reported a positive correlation between entrepreneurial intention and innovativeness. The extant literature suggests that innovativeness is positively correlated with entrepreneurial intention (Gurol & Atsan, 2006; Robinson et al., 1991). The study indicates that innovativeness positively influences entrepreneurial intention (Wathanakom et al. 2020).

H3. Does entrepreneurial intention mediate the relationship between Entrepreneurial Attitude and social innovation?

The intention is the most critical factor that an individual is willing to entrepreneurship. Entrepreneurial intention is the desire of individuals to take the opportunity and open their own business by creating a product or new service. According to Rasli et al. (2013), the intention of entrepreneurship is a mind that encourages individuals to create businesses. However, there is a lack of research and researcher activities investigating the impact of entrepreneur intent on the relationship between ESE and emerging behaviour. This limits the ability of researchers and policymakers to understand the mechanisms and determinants that lead to the transformation of entrepreneurial capabilities in their various forms (behaviour, willingness, skills) into entrepreneurial businesses or the creation of new companies (Kautonen & Gelderen 2013; McGee et al., 2009; Henley, 2007). Mwiya et al. (2018), entrepreneurial intention mediates the effect of self-efficacy on nascent behaviour. This study suggests that EI mediates the influence of entrepreneurial self-efficacy (ESE) dimensions on emerging behaviour (Rezaei & Peykani 2017). Results showed a significant direct relationship between critical thinking, employee productivity, and entrepreneurial intention. Moreover, the mediation demonstrated that entrepreneurial intention partially mediates critical thinking and employee productivity. (Lacap et al., 2018). The results

revealed that the prior experience with social problems positively and significantly affects empathy, moral obligation and recognised the enhancement and motivation. Moreover, it has been shown that social entrepreneurship enjoys self-efficacy, and perceived social support significantly affects social entrepreneurial antecedents. This entrepreneurial intention mediates the positive relationship between entrepreneurial antecedents and prior experience (Jean et al.,2018). TPB posits that beliefs about attitude, control, and norms influence behaviour and are mediated by intentions (Ajzen, 2011).

3. Methodology

This study is survey based, and the data was collected from nonprobability sample entrepreneurial women. The main objective of a questionnaire is to gather important information and knowledge about a population. Therefore, the study aims to determine the factors that influence women's entrepreneurial intention and innovation. A questionnaire has been developed based on the previous studies. Measurement that encompasses a variety of multi-item measures was designed for entrepreneurial women. The survey is divided into three parts. Part one is the cover letter explaining the purpose and objective of the study, part two is the respondent profile, and part three is the items of the variables and dimensions. The survey is self-administrated, while all the measurements are initially written in English, then translated to Arabic (back-to-back translation). All the questionnaire items were based on a five-point Likert scale. The population of this study consisted of women's entrepreneurial located in Khartoum state. A purposive sample was used to obtain the sample size, starting with an intentional sampling of entrepreneurial women in Sudan. A total sample of 310 entrepreneurial women was chosen, as recommended sampling size demanded factor analysis. There were a total of 16 items used for conducting factor analysis. Different Statistical techniques were implemented including, common method bias tests, exploratory factor analysis (EFA), reliability tests, confirmatory factor analysis, and multiple regression.

4. Data Analysis and Results

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) The study employed EFA to test 16 items of the questionnaire that reflected three variables of the model. On the other hand, CFA, using Smart PLS 3.0, was conducted to check the model fit, and the measurement scores are shown in Figure 2. resulting in an Excellent model fit. The fit indices detected that the standardized root means square residual (SRMR) is. 0.95, Chi-square is14.174, DFI is. 11, CMIN/Df is 1.289, CFI is >0.95, RMSEA is <0.06, P Close is >0.05, The above indices altogether displayed Excellent fit.

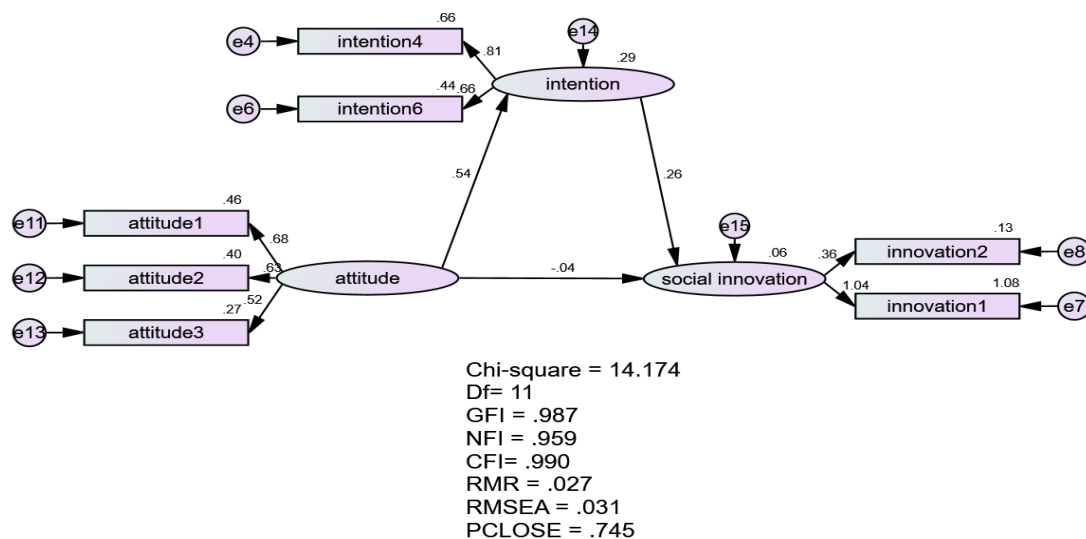


Figure:1 The study model fit
Table:1 Construct reliability, internal validity, and discriminant validity

	CR	AVE	MSV	MaxR(H)	intention	innovation	Attitude
Intention	0.708	0.551	0.291	0.733	0.742		
Innovation	0.713	0.606	0.057	1.080	0.238***	0.778	
Attitude	0.642	0.377	0.291	0.654	0.539***	0.100	0.614

Regression Weights: (Group number 1 - Default model)

Structural model and hypotheses testing

The indirect effects using the bootstrap approach (Bollen and Stine, 1990, Preacher and Hayes, 2004, Shrout and Bolger, 2002) it's different from Baron-Kenny (1986) approach. the evidence are shows in the next Table.

Table:2 Study paths coefficients for hypothesis testing

paths			Estimate	S.E.	C.R.	P	Result
intention	<---	attitude	.578	.109	5.283	***	Support
innovation	<---	intention	.157	.060	2.616	.009	Support
innovation	<---	attitude	-.026	.068	-.386	.700	Not Support

Table (2) depicts the main information concerning the hypothesized relationships paths. Under P-value for statistical significance, two paths, intention -> attitude and Innovation -> Intention, show significantly positive influence (p-value < 0.05), supporting their respective hypothesis. The other paths observed statistically insignificant influences; therefore, their hypothesized relationships were not supported.

Table:3 User-defined estimands for indirect effect between Attitude,entrepreneurial intent and social innovation

Parameter	Indirect Effects	Lower Bounds	Upper Bounds	Indirect Effects - Two Tailed Significance
attitude	0.091	0.004	0.204	0.043
intention	...	...	...	...
innovation	...	...	...	...

Table (3) presented the indirect effect shows significant relationship between attitude and innovation through entrepreneurial intention(p<0.05). This result confirmed that a partial mediation of entrepreneurial intention in the relationship between attitude and innovation.

5. Discussion

The study shows that the sampled Sudanese entrepreneurial women (based on a 5-point Likert scale). The study shows the attitude entrepreneurial is significant on intention agreed with the study's that Cruz et al. (2015). The attitude is a tendency to react effectively in response to the risks faced in a business. These attitudes and intentions are associated with individual perception, and they are learnable. These findings concur with prior studies, which Churchill and Bygrave (1989) emphasized that traits concerning entrepreneurs are positively associated with entrepreneurial intention. This result aligns with Yan and Hu (2008), who also affirmed that personality traits, entrepreneurial attitude, and entrepreneurial intention are positively related. These findings concurred with those of previous research, such as the findings of Geissler and Zanger (2013). Several experiential types of research show the relevance of the concept of attitude as a strong and reliable interpreter of business intent. (Mohamed et al., (2012). Moreover, the attitudes of the women have an impact on behavior by intent. This result aligns with Hubungan Sikap (2016). The study has shown that Indian undergraduates have a positive attitude and a high intention for entrepreneurial careers Kris & Kristian (2016). A survey among university students revealed that male students show more positive attitudes towards entrepreneurship and much more concrete entrepreneurial intentions. Kusmintarti et al. (2014) suggest that an entrepreneurial attitude affects positively and significantly their entrepreneurial intentions. On the other hand, this study reveals that the other factors have insignificant relationships with entrepreneurial intention. Only two factors of the study, entrepreneurial intention, and innovation, these findings concurred with those of previous research, such as findings that agreed with (Chia and Liang, 2016). the consumer's intention to adopt innovations is quite important and accurately predicts usage behaviour. The study also found that (Sutha 2016) suggests that innovativeness positively influences entrepreneurial intention. The findings of this study (Herdjiono et al.,2017). This study illustrates that entrepreneurial intention directly influences social innovation. This study suggests that innovativeness has a positive influence on entrepreneurial intention. such as This study suggests that innovativeness has a positive influence on entrepreneurial intention. (Wathanakom et, al 2020).

Third, this study confirmed a partial mediation of entrepreneurial intention in the relationship between entrepreneurial attitude and social innovation. This study finding has supported the previous research done by (Mwiya et al., 2018). which found that Entrepreneurial Intention Mediates the Effect of Self-Efficacy on Nascent Behaviour This study suggests that EI mediates the influence of entrepreneurial self-efficacy (ESE) dimensions on nascent behaviour. This finding agrees with the arguments of (Rezaei & Peykani (2017). The results showed a significant direct relationship between critical thinking, employee productivity, and entrepreneurial intention. Moreover, the mediation demonstrated that entrepreneurial intention partially mediates critical thinking and employee productivity, as outlined by (Lacap et al., 2018). It was also found that social entrepreneurial self-efficacy and perceived social support Positively and significantly affect social entrepreneurial antecedents. These entrepreneurial intentions mediate the positive relationship between entrepreneurial antecedents and prior experience (Jean et al.,2018). TPB posits that beliefs about attitude, control, and norms influence behavior and are mediated by intentions (Ajzen 2011).

6. Conclusion

This study is expected to contribute to entrepreneurship literature through some of the following perspectives. Firstly, the application of the theory of planned behavior is completely appropriate in the context of Sudan. Analogously to many previous studies, the entrepreneurial attitude has a significant effect on social innovation; Secondly, whereas previous studies only focus on the mediating effects of entrepreneurial intention on social innovation, this study shows that

although entrepreneurial intention plays a partial role in the relationships between, entrepreneurial attitude and social innovation, finally when studies show that entrepreneurial intention affects social innovation. This study might contribute to entrepreneurship and social innovation through some of the following perspectives in terms of practical implications. On the one hand, the study results illustrate that entrepreneurial attitude plays the most crucial role in entrepreneurial intention to run their own business among Sudanese entrepreneurial women. Finally, the results indicate that entrepreneurial intention is directly related to social innovation but that the linkage between entrepreneurial intention and social innovation are also partially mediated by entrepreneurial intention. This study suffered a few limitations, especially since the data was collected from only four entrepreneurial women. Firstly, it has utilized the questionnaire survey as the preliminary quantitative data collection technique. Future studies should apply qualitative and mixed techniques. Secondly, the study measured the factors of entrepreneurship using variables adopted from previous research. Further studies should employ other variables related to the factors affecting entrepreneurship. Thirdly, the study only focused on testing the effects of mediating variables without dominations. Future studies may extend this model by examining the mediating variables with dominations to reach significant positive relationships. Finally, the small number of study participants researched is a considerable limitation as well.

Reference

- Anwar, I., Jamal, M. T., Saleem, I., & Thoudam, P. (2021). Traits and entrepreneurial intention: testing the mediating role of entrepreneurial attitude and self-efficacy. *Journal for International Business and Entrepreneurship Development*, 13(1), 40–60.
- Ali, M., & Abou, E. A. E. E. (2020). Determinants of entrepreneurial intention among Sudanese university students. *Management Science Letters*, 10(12), 2849-2860.
- Altınay, L. (2008). The relationship between an entrepreneur's culture and the entrepreneurial behavior of the firm. *Journal of Small Business and Enterprise Development*, 15(1), 111–129.
- Ajzen, I. (1988) 'Attitudes', Personality and Behavior, Open Press University, Buckingham. England.
- Ajzen, I. (2005). Attitudes, personality and behavior. 2nd ed. England: Open University Press (McGraw-Hill).
- Ajzen, I. (2011). Theory of planned behavior. Available at <http://people.umass.edu/aizen/tpb.html>, accessed 21 May 2013.
- Ariff, M., & Abubakar, S. Y. (2003). Strengthening entrepreneurship in Malaysia. Retrieved on 15 February 2015 from http://www.mansfieldfdn.org/backup/programs/program_pdfs/ent_malaysia.pdf
- Autio, E., Keeley, H., Klofsten, R.M., Parker, G.C. & Hay, M. (2001) 'Entrepreneurial intent among students in Scandinavia and in the USA', *Enterprise and Innovation Management Studies*, 2(2), 145–160.
- Anwar, I. and Saleem, I. (2019) 'Entrepreneurial intention among female university students: a step towards economic inclusion through venture creation', in Mrinal, S.R., Bhattacharya, B. and Bhattacharya, S. (Eds.): *Strategies and Dimensions for Women Empowerment*. Central West Publishing, Australia. 331–342
- Aries, A., Vional, V., Saraswati, L., Wijaya, L., & Ikhsan, R. (2020). Gamification in learning process and its impact on entrepreneurial intention. *Management Science Letters*, 10(4), 763-768.
- Ahmed, I., Nawaz, M. M., Ahmad, Z., Shaukat, M. Z., Usman, A., Rehman, W., & Ahmed, N. (2010). Determinants of students entrepreneurial career intentions: Evidence from business graduates. *European Journal of Social Sciences*, 15(2), 14-22.
- Al-Nashmi, M. (2017). The impact of entrepreneurial characteristics on the intention of administrative sciences students to start new ventures - University of Science and Technology-. *The Arab Journal for Quality Assurance in Higher Education*, 10(5), 103-119. doi:10.20428/ajqahe.10.5.5
- Abou, E.E., Ibrahim, S.B. & Hamid, A., 2018. What Makes an Entrepreneurs Success in business? *GCNU Journal*, 11(43) 213-233.
- Anwar, I., Saleem, I., Islam, K.B., Thoudam, P. & Khan, R. (2020) 'Entrepreneurial intention among female university students: examining the moderating role of entrepreneurial education', *Journal for International Business and Entrepreneurship Development*. 12 (4), 217–234 [online] <https://doi.org/10.1504/JIBED.2020.110254>.
- Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of applied psychology*, 89(4), 587-598.
- Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442-453. <http://dx.doi.org/10.2307/258091>.
- Baron, R. A., & Markman, G. D. (2003). Beyond social capital: The role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing*, 18(1), 41-60.
- Bourne, L. (2011). Advising upwards: Managing the perceptions and expectations of senior management stakeholders. *Management Decision*, 49, 1001–1023.
- Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology*, 89(4), 587-598.
- Cruz, L.D., Suprapti, S., Yasa, K. (2015). Aplikasi Theory Of Planned Behavior Dalam Membangkitkan Niat Berwirausaha Bagi Mahasiswa Fakultas Ekonomi Unpaz, Dili Timor Leste. *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*. 4 (12), 895-920.
- Churchill, N. & Bygrave, W.D. (1989) 'The entrepreneur ship paradigm (I): a philosophical look at its research methodologies', *Entrepreneurship Theory and Practice*, 14(1), 7–26.
- Collins, C. J., Hanges, P. J., & Locke, E. A. (2004). The relationship of achievement motivation to entrepreneurial behavior: A meta-analysis. *Human performance*, 17(1), 95-117.
- Chia, C. C., & Liang, C. (2016). Influence of creativity and social capital on the entrepreneurial intention of tourism students. *Journal of Entrepreneurship, Management and Innovation*, 12(2), 151–168.
- Carland, J. W., Carland, J. C., Hoy, F., & Boulton, W. R. (1988). Distinctions between entrepreneurial and small business ventures. *International Journal of Management*, 5(1), 98-103.
- Carland, J. W., Hoy, F., Boulton, W. R., & Wilson, J. (1984). The social structure of entrepreneurship: A conceptualization. *Academy of Management Review*, 9(3), 491–503.
- Christensen, C.M. (2002). *The Innovator's Dilemma: How Large Firms Fail by Making Too Many Incremental Innovations*. Harvard Business School Press, Boston.
- Cromie, S. (2000) 'Assessing entrepreneurial inclinations: some approaches empirical evidence', *European Journal of Work and Organizational Psychology*, 9(1), 7–30.
- Carsrud, A., & Brannback, M. (2011). Entrepreneurial motivations: What do we still need to know? *Journal of Small Business Management*, 49(1), 9–26.

- Drazin, R., & Schoonhoven, C. B. (1996). Community, population, and organization effects on innovation: A multilevel perspective. *Academy of Management Journal*, 39(5), 1065-1083. <http://dx.doi.org/10.2307/256992>
- Drnovsek, M., & Erikson, T. (2005). "Competing Models of Entrepreneurial Intentions, *Economic and Business Review for Central and South-Eastern Europe*", ABI/INFORM.
- Duong, C., Nguyen, H., Ngo, T., Nguyen, V., & Nguyen, T. (2020). The impact of individual and environmental characteristics on students' entrepreneurial intention. *Management Science Letters*, 10(3), 599-608.
- Elhag, M. M., & Abd Elmawla, M. A. (2020). Gender-based assessment of science, technology and innovations ecosystem in the Sudan. *African Journal of Rural Development*, 5(1), 97-113.
- Entrialgo, M., Fernandez, E. & Vazquez, C. (2000) 'Characteristics of managers as determinants of entrepreneurial orientation: some Spanish evidence', *Enterprise and Innovation Management Studies*, 1(2), 187-205.
- Fani, M. P., Morteza, V., & Zadeh, M. H. (2009). Factors affecting entrepreneurial attitudes of MA students in Islamic Azad University (Babol Branch). *Europe an Online Journal of Natural and Social Sciences* 2(3), 1407-1408.
- Fadaee, A., & Abd. A., Haitham, O. (2014). Explaining the Relationship between Creativity, Innovation and Entrepreneurship. *International Journal of Economy, Management and Social Sciences* 3(12), 2-3.
- Fagerberg, J., & Sappasert, K. (2011). National innovation systems: the emergence of a new approach. *Science and public policy*, 38(9), 669-679.
- Geissler and Zanger (2013), A comparative study on entrepreneurial intentions of vocational school and undergraduate students with entrepreneurship education. *Journal of International Scientific Publications*, 9, 203-209.
- Gürol, Y., & Atsan, N. (2006). Entrepreneurial characteristics amongst university students. *Education + Training*, 48(1), 25-38. Doi: 10.1108/00400910610645716
- GERA, (2017) Global Entrepreneurship Research Association. Global Entrepreneurship Monitor (GEM) 2016-2017 Global Report. Retrieved from <http://www.gemconsortium.org/report>.
- Gozukara, I., & Colakoglu, N. (2016). Enhancing entrepreneurial intention and innovativeness of university students: the mediating role of entrepreneurial alertness. *International Business Research*, 9(2), 34-45.
- Hisrich, R. D., Peters, P. M., & Shepard, D. A. (2008). *Entrepreneurship*. Singapore: Mc Graw Hill International Edition.
- Henley, A. (2007), "Entrepreneurial aspiration and transition into self-employment: evidence from British longitudinal data", *Entrepreneurship & Regional Development*, Routledge, 19 (3), 253-280.
- Herdjiono, I., Puspita, Y. H., Maulany, G., & ALDY, E. (2017). The factors affecting entrepreneurship intention. *International Journal of Entrepreneurial Knowledge*, 2(5), 7-9. DOI: 10.1515/ijek-2017-0007
- Hansemark, O.C. (1998) 'The effects of an entrepreneurship programme on need for achievement and locus of control of reinforcement', *International Journal of Entrepreneurial Behavior and Research*, 4(1), 28-50.
- Jean, P. G. L., Hendrati, D. M., Veland, R. (2018) "The mediating effects of social entrepreneurial antecedents on the relationship between prior experience and social entrepreneurial intent: The case of Filipino and Indonesian university students", *Journal of Science and Technology Policy Management*.
- Kautonen, T., & Gelderen, M. V. (2013). Robustness of the Theory of Planned Behavior in Predicting Entrepreneurial Intentions and Actions. 2-3.
- Krueger, N. F., & Carsrud, A. L. (1993). Entrepreneurial intentions: Applying the theory of planned behavior. *Entrepreneurship Regional Development*, 5(4), 315-330.
- Kusmintarti, A., Asdani, A., & Riwayanti, N. I. (2017). The relationship between creativity, entrepreneurial attitude and entrepreneurial intention (case study on the students of State Polytechnic Malang). *International Journal of Trade and Global Markets*, 10(1), 28-36.
- Kris M. Y. L., & Kristian. B. (2016). Impacts of innovativeness and attitude on entrepreneurial intention: among engineering and non-engineering students. *Int J Technol Des Educ*.
- Khajeheian, D. & Tadayoni, R. (2016). User innovation in public service broadcasts: creating public value by media entrepreneurship, *International Journal of Technology Transfer and Commercialisation*, 14(2), 117-131.
- Kusmintarti, A., Thoyib, A., Ashar, K., and Maskie, G. (2014) 'The relationships among entrepreneurial characteristics, entrepreneurial attitude, and entrepreneurial intention', *IOSR Journal of Business and Management*, 16(6), 11-15.
- Koh, H. C. (1996). Testing hypotheses of entrepreneurial characteristics: A study of Hong Kong MBA students. *Journal of Managerial Psychology*, 11(3), 12-25.
- Linan, F. (2008). Skill and value perceptions: how do they affect entrepreneurial intentions? *International entrepreneurship and management journal*, 4(3), 257- 272.
- Lacap, J. P. G., Mulyaningsih, H. D. & Veland, R. (2018). The mediating effects of social entrepreneurial antecedents on the relationship between prior experience and social entrepreneurial intent: The case of Filipino and Indonesian university students. *Journal of Science and Technology Policy Management*.
- Lee, S. H., & Wong, P. K. (2004). An exploratory study of technopreneurial intentions: A career anchor perspective. *Journal of Business Venturing*, 19(1), 7-28. [http://dx.doi.org/10.1016/S0883-9026\(02\)00112-X](http://dx.doi.org/10.1016/S0883-9026(02)00112-X)
- Luthje, C., & Franke, N. (2003). The 'making' of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management*, 33, 135-147.
- Iakovleva, T. A., Kolvereid, L., Gorgievski-Duijvesteijn, M. M., & Sørhaug, Ø. (2014). Comparison of perceived barriers to entrepreneurship in Eastern and Western European countries. *International Journal of Entrepreneurship and Innovation Management*, 18(2/3), 115-133.
- McGee, J.E., Peterson, M., Mueller, S.L. and Sequeira, J.M. (2009) 'Entrepreneurial self- efficacy: refining the measure', *Entrepreneurship Theory and Practice*, 33(4), 965- 988.
- Mohamed, Z., Rezai, G., Nasir, S. M & Muhammad, Mu'az M. 2012. Enhancing young graduates' intention towards entrepreneurship development in Malaysia. *Education+ Training* 54(7): 605-618.
- McBeth, E.W., & Rimac, T. (2004). The Age of Entrepreneurial Turbulence, Creating Sustainable Advantage for Individuals, Organizations and Societies in the New Century ESADE MBA BUSINESS REVIEW.
- Mulgan, Technology, Governance, Globalization, 1(2), 145-162 Retrieved from
- Mohd. S. orita, Rosli, M. Armanurah, M. Lily, J. A. B. & Muhammad, N. M. H. 2005. Asas Keusahawanan. Kuala Lumpur: Thomson Learning.
- Mwiya, B., Wang, Y., Kaulungombe, B. and Kayekesi, M. (2018), "Exploring entrepreneurial intention's mediating role in the relationship between self-efficacy and nascent behaviour: Evidence from Zambia, *Africa Journal of Small Business and Enterprise Development*, 26 (4), 466-485.
- Mitrovic, V. S. Maric, M., Subotic, M., Dudic, B., & Greguš, M. (2019). Family Entrepreneurship and Personal Career Preferences as the Factors of Differences in the Development of Entrepreneurial Potential of Students. *Sustainability*, 11(20), 5693.
- Olszewska, A. (2015). Students' perceptions and attitudes towards entrepreneurship, a cross- program and cross- cultural comparison. *Journal of Social Sciences (COES&RJ-JSS)*, 4(1), 597-610.
- Rezaei, N., & Peykani, M. H. (2017). The Mediating Role of the Entrepreneurial Intention in the Relationship between Critical Thinking and Employee Productivity Telecommunication Company of Isfahan. *International Review of Management and Marketing*, 7(3). 221-222.

- Räty, H., Komulainen, K., Hytti, U., Kasanen, K., Siivonen, P., & Kozlinska, I. (2019). University students' perceptions of their abilities relate to their entrepreneurial intent. *Journal of Applied Research in Higher Education*, 11(4), 897-909
- Rasli, A. M., Khan, S.U., Malekifar, S. dan Jabeen, S. (2013). Factors Affecting Entrepreneurial Intention Among Graduate Students of Universiti Teknologi Malaysia. *International Journal of Business and Social Science*. 4 (2)182-188.
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., & Hunt, H. K. (1991). An attitude approach to the prediction of entrepreneurship. *Entrepreneurship Theory and Practice*, 13-31.
- Sudipa, M. & Damodharan, V. (2012). Students' attitude towards entrepreneurship: does gender matter in the UAE? *Foresight* 15(4): 278-293.
- Sharahiley, S. M. (2020). Examining entrepreneurial intention of the Saudi Arabia's university students: Analyzing alternative integrated research model of TPB and EEM. *Global Journal of Flexible Systems Management*, 21(1), 18-20.
- Sutha, A. I., & Sankar, P. (2016). Entrepreneurial intention and social entrepreneurship among university students in Chennai city. *International Journal of Engineering Studies*, 1, 93-106.
- Sacral, H. C. (2017). The Relationship between Entrepreneurial Characteristics and Entrepreneurial Intention. doi:10.15405/epsbs.2017.12.02.31
- Sulatn, S. M., (2016). Availability Level of Entrepreneurial Characteristics and its Relationship to Some Personal Variables: An Empirical Study on Undergraduate Students Business Administration in the Southern West Bank Universities. *IUG Journal of Economics and Business Studies*, 24(2), 102-123.
- Sayadi, S., Chamanifard, R., Nikpour, A. (2015), the mediating role of job satisfaction in the relationship between intellectual capital and employee productivity (case study: Bank Tejarat North West of Tehran). *Journal of Productivity Management*, 34, 44- 27.
- Utsch, A. and Rauch, A. (2000) 'Innovativeness and initiative as mediators between achievement orientation and venture performance', *European Journal of Work and Organizational Psychology*, 9(1),45-62.
- Wathanakom, J. Songkram, N., & Songkram, N. (2020). The study of the causal relationship between innovativeness and entrepreneurial intention among undergraduate students. *J Innov Entrep*, 9 (1), 1-13.
- Utami, C. W. (2017). investigate the Attitude, subjective norms, perceived behavior, entrepreneurship education and self-efficacy towards entrepreneurial intention university student in Indonesia. *European research studies journal*, 20(24), 475-495.
- Yan, H.D. and Hu, M.C. (2008) 'Strategic entrepreneurship and the growth of the firm: the case of Taiwan's bicycle industry', *Global Business and Economics Review*, 10(1), 11-34.
- Zacharakis, A. (1997) 'Entrepreneurial entry into foreign markets', *Entrepreneurship: Theory and Practice*, pp.23-40, Spring, New York, NY.
- Zhao, F. (2005), "Exploring the synergy between entrepreneurship and innovation", *International Journal of Entrepreneurial Behavior & Research*, 11 (1), 25 - 41.